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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,070	02/21/2002	Thomas F. Soules	120491 GEC 2 0610	8560

7590 05/04/2004

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EXAMINER

COLON, GERMAN

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,070	SOULES ET AL.	
	Examiner	Art Unit	
	German Colón	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-8 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,5-8,12 and 13 is/are allowed.
- 6) ☒ Claim(s) 14-19 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 20 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 18, 2004 has been entered.

Claim Objections

2. Claim 23 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 23 recites the limitation of the third coiled structure having 9 mg of carbonates per 30 mm of secondary coil; however, claim 15, from which it depends, establishes the amount of carbonates in the range of 10-15 mg per 30 mm of secondary coil.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2879

4. Claims 14, 15, 17, 19, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda et al. (US 5,629,586) in view of Applicant's Admitted Prior Art (AAPA).

Referring to claim 15, Yasuda discloses the method for forming a coil for a fluorescent lamp, the method comprising:

winding a wire around a first cylindrical member and a current carrying wire to form a first coiled structure;

winding the first coiled structure around a second cylindrical member, without appreciable overlapping of coils, to form a second coiled structure having 80-130 turns per inch; and

winding the second coiled structure around a third cylindrical member to form a third coiled structure, the coiled structure having a diameter of at least 1 mm; and coating the third coiled structure with an emitter (see Figs. 3-5 and Col. 3, lines 19-43). Yasuda is silent regarding the limitation of the amount of emitter being 10-15mg/30 mm length of secondary coil.

However, AAPA discloses that conventional tripe-coiled structures comprising a third coiled structure having a diameter of 0.8 mm and about 60 TPI of secondary coil, usually have an amount of emitter in the range of 7-8 mg/30 mm length of secondary coil, wherein the amount of emitter is limited by the TPI (see paragraphs [0029] and [0030]). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an amount of emitter material in the range of 10-15mg/30 mm length of secondary coil, since the triple-coiled structure of Yasuda comprises a third coiled structure having a diameter of 1 mm and about twice the TPI of secondary coil of the prior art lamps.

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Referring to claim 17, Yasuda-AAPA discloses the second coil structure having at least 80 TPI.

Referring to claim 19, Yasuda-AAPA discloses the third cylindrical member having a diameter of 1 mm.

Referring to claim 21, Yasuda-AAPA discloses the second coil structure having at least 90 TPI.

Regarding claim 22, Yasuda is silent regarding the third coiled structure being about 11.5 mm in length. However, AAPA teaches said length be conventional. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a third coiled structure having a length of 11.5 mm, since AAPA teaches said length to be well known in the art.

Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “the third coiled structure with a length of 11.5 mm”, since it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value.

Regarding claims 14 and 23, claims 14 and 23 are rejected over the reasons stated in the rejection of claim 15.

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5. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda-AAPA as applied to claim 15 above, and further in view of Thomas (US 3,003,077).

Regarding claim 16, Yasuda-AAPA discloses the claimed invention except for the limitation of “the emitter material comprising an carbonates selected from the group consisting of Ba, Sr, Ca, Zr and combinations thereof”.

However, in the same field of endeavor, Thomas discloses a coil having an emitter made of carbonates of Ba, Sr, Ca, Zr and combinations thereof, and teaches such compounds to be traditional and well known in the art (see Col. 1, lines 12-14, and Col. 2, lines 62-63 and 71-72). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a carbonate of Ba, Sr, Ca, Zr and combinations thereof as the emitter material since Thomas teaches such carbonates to be traditional and well known in the art.

Regarding claim 18, Yasuda discloses the claimed invention except for the limitation of “dissolving the first, second and third cylindrical members in an acid bath”. Yasuda discloses the coil being made of tungsten (W), the cylindrical members being made of molybdenum (Mo) and said cylindrical members being dissolved by usual Mo solvents (see Col. 3, lines 50-51).

However, in the same field of endeavor, Thomas discloses a coil made of (W) with cylindrical members made of (Mo), and teaches an acid bath which removes the Mo without removing the (W), to be customary for removing such cylindrical members (see Col. 2, lines 53-58). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acid bath disclosed by Thomas as the (Mo) solvent disclosed by Yasuda, since Thomas teaches the acid bath to be customary for removing (Mo) cylindrical members, removing the (Mo) without removing the (W) of the coil.

Allowable Subject Matter

6. Claims 1, 3, 5-8, 12 and 13 are allowed.
7. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The references of the Prior Art of Record fail to teach or suggest the combination of the limitations as set forth in claim 1, and specifically comprising the limitation of “the third cylindrical member having a diameter of at least 1.2 mm, and the amount of emitter material deposited in the coil being at least 9-16 mg per 11.5 mm length of the coil”.

Regarding claims 3, 5-8, 12 and 13, said claims are allowable for the reasons stated in claim 1, because of their dependency status from claim 1.

Response to Arguments

9. Applicant's arguments filed January 8, 2004, with respect to claims 14-23 have been fully considered but they are not persuasive.

Applicant argues that Yasuda fails to teach a secondary coil having at least 80 TPI. The Examiner notes that Yasuda discloses a secondary coil having a pitch of 0.2 mm, i.e. a turn every 0.2 mm. Accordingly, Yasuda discloses the secondary coil having about 5 turns per millimeter. Since an inch has 25.4 mm, thus, the reference teaches a TPI greater than 100.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 571-272-2451. The examiner can normally be reached on Monday thru Thursday, from 8:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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Joseph Williams